UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,258	06/23/2003	Richard J. Gregory	016930-005000US	1921

20350 7590 06/28/2005

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER	
GUZO, DAVID	

ART UNIT	PAPER NUMBER
1636	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/602,258	GREGORY ET AL.	
	Examiner	Art Unit	
	David Guzo	1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *32-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *32-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/22/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *See Continuation Sheet*.

Continuation of Attachment(s) 6). Other: Notice to Comply with Sequence Rules.

Detailed Action

Sequence Rules

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth below or on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures.

Applicant must comply with the sequence rules, 37 CFR 1.821 - 1.825. Applicant is requested to return a copy of the attached Notice to Comply with the reply. The nature of the non-compliance has not however precluded an examination of the application on the merits, the results of which are communicated below.

Priority

Priority for the claimed invention is granted back to the filing date of the 08/246,006 application (filed 5/19/94).

Abstract

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The

abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it is in two paragraphs.

Correction is required. See MPEP § 608.01(b).

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The Declaration filed 6/23/03 claims priority to application 08/233,777, filed 5/19/94, while the Continuing Data and the Application Data sheet do not claim priority to this application. Indeed, in a preliminary amendment filed 6/23/03, applicants deleted the priority claim for the 08/233,777 application and substituted a claim to the 08/246,006 application.

35 USC 102 Rejections

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 32-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang et al. (US Patent 6,410,010, cited by applicants).

Applicants claim a recombinant adenovirus which carries an adenovirus vector construct comprising an expression region encoding p53 under the control of a promoter (which can be the cytomegalovirus immediate early promoter), wherein infection of a tumor cell with said adenovirus results in a p53 protein level sufficient to inhibit tumor cell growth *in vivo* or restore growth suppression to said tumor cell *in vivo* or kill the tumor cells. The p53 sequence can replace the E1A-E1B region of the adenovirus and the vector can comprise a polyadenylation signal. Applicants also claim the adenovirus vector. Applicants have copied claims from the 6,410,010 patent in order to provoke an interference.

Zhang et al. (priority to 10/29/03) recite the same claims as in the instant application. Specifically, the instant claims correspond to claims 1, 5, 7, 12 and 15-18 of the Zhang et al. patent. Applicants claim priority for the claimed invention back to the filing date of the 08/142,669 application (filed 10/25/93, hereafter the '669 application). Applicants however, do not have support for the claimed invention in the '669 application. Specifically the '669 application does not disclose or suggest a recombinant adenoviral vector or recombinant adenovirus comprising a CMV immediate early promoter operably linked to a p53 coding region. The '669 application provides

support only for a recombinant adenoviral vector comprising the p53 coding sequence operably linked to the adenovirus major late promoter (MLP) packaged in an adenovirus. With regard to the limitation (in claims 35 and 37) of a recombinant adenovirus or adenoviral vector which expresses a level of p53 sufficient to "restore growth suppression to a tumor cell *in vivo*", the '669 application does not disclose this limitation. Support for the claimed invention can initially be found in the 08/246,006 application (filed 5/19/94). Zhang et al. is therefore 102(e) art against the claimed invention.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 32-41are rejected under 35 U.S.C. 102(a) as being anticipated by Bacchetti et al. (Cited by applicants as reference AF).

Applicants' invention is as described in the above 35 USC 102(e) rejection.

Bacchetti et al. (see whole article, particularly the Abstract, Fig. 1, and p. 783) recites a recombinant adenovirus vector (and adenovirus containing said vector) wherein said vector comprises the p53 gene operably linked to the CMV IE promoter and a polyadenylation signal wherein the p53 sequence replaces the adenoviral E1 coding region. With regard to the limitation that the adenovirus vectors express the p53 gene at levels sufficient to inhibit tumor cell growth in cells *in vivo* or restore growth

suppression or kill tumor cells *in vivo*, since the vectors disclosed by Bacchetti et al. recite the same adenoviral constructs (i.e. p53 coding sequence operably linked to the CMV IE promoter wherein the p53 sequence replaces the E1 region in the adenovirus), it must be assumed that the vectors and adenoviruses recited in both sets of claims would have the same effects in tumor cells *in vivo*.

Obviousness Type Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 32-41 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4-7, 9, 15, 17-20, 22 and 24-25 of U.S. Patent No. 6,210,939 (hereafter the '939 patent). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims recite recombinant adenoviral vectors capable of expressing p53 protein under control of the CMV immediate early (IE) promoter wherein the p53 coding sequence replaces the E1 region of the adenovirus. With respect to claims reading on

recombinant adenoviruses which carry the recombinant adenoviral vectors, the packaging of the vectors in adenovirus particles would have been obvious since the adenovirus is a necessary carrier which delivers the vector to the target cells. It is also noted that the A/C/N/53 vector claimed in the '939 patent contains the p53 coding region operably linked to the CMV IE promoter and a polyadenylation sequence. With regard to the limitation that the adenovirus vectors express the p53 gene at levels sufficient to inhibit tumor cell growth in cells *in vivo* or restore growth suppression or kill tumor cells *in vivo*, since the claims in the '939 patent recite the same adenoviral constructs (i.e. p53 coding sequence operably linked to the CMV IE promoter wherein the p53 sequence replaces the E1 region in the adenovirus), it must be assumed that the vectors and adenoviruses recited in both sets of claims would have the same effects in tumor cells *in vivo*.

Claims 32-41 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,7,9,11-12, 16 and 18 of U.S. Patent No. 5,932,210. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims recite recombinant adenoviral vectors capable of expressing p53 under the control of a CMV IE promoter wherein the p53 sequence replaces the adenoviral E1 region. It is noted that the claimed A/C/N/53 vector contains the p53 gene under control of the CMV IE promoter and a polyadenylation sequence wherein the p53 gene replaces the E1 coding region. With regard to the limitation that the adenovirus vectors express the p53 gene at levels

sufficient to inhibit tumor cell growth in cells *in vivo* or restore growth suppression or kill tumor cells *in vivo*, since the claims in the '210 patent recite the same adenoviral constructs (i.e. p53 coding sequence operably linked to the CMV IE promoter wherein the p53 sequence replaces the E1 region in the adenovirus), it must be assumed that the vectors and adenoviruses recited in both sets of claims would have the same effects in tumor cells *in vivo*. With respect to claims reading on recombinant adenoviruses which carry the recombinant adenoviral vectors, the packaging of the vectors in adenovirus particles would have been obvious since the adenovirus is a necessary carrier which delivers the vector to the target cells. The instant claims must therefore be considered obvious over the claims in the '210 patent.

Claims 32-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 32-41 of copending Application No. 10/766,363 (hereafter the '363 application). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims recite adenoviral vector constructs comprising the p53 gene under control of a CMV promoter and a polyadenylation signal. With regard to the instant claims reciting use of the CMV IE promoter, said CMV IE promoter would have been an obvious choice because the 10/766,363 application specifically teaches use of the CMV IE promoter as a promoter of choice and the exemplified A/C/N/53 adenoviral vector (in the '363 application) comprises the CMV IE promoter operably linked to the p53 gene and a polyadenylation signal. With regard to the limitation that the adenovirus

vectors express the p53 gene at levels sufficient to inhibit tumor cell growth in cells *in vivo* or restore growth suppression or kill tumor cells *in vivo*, since the claims in the '363 application recite the same adenoviral constructs (i.e. p53 coding sequence operably linked to the CMV promoter wherein the p53 sequence replaces the E1 region in the adenovirus), it must be assumed that the vectors and adenoviruses recited in both sets of claims would have the same effects in tumor cells *in vivo*. With respect to claims reading on recombinant adenoviruses which carry the recombinant adenoviral vectors, the packaging of the vectors in adenovirus particles would have been obvious since the adenovirus is a necessary carrier which delivers the vector to the target cells. The instant claims must therefore be considered obvious over the claims in the '363 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 32-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 54-71 of copending Application No. 11/130,594 (hereafter the '594 application). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims recite adenoviral vectors comprising the p53 gene under control of a CMV promoter and a polyadenylation signal. With regard to the instant claims reciting use of the CMV IE promoter, said CMV IE promoter would have been an obvious choice because the '594 application specifically teaches use of the CMV IE

promoter as a promoter of choice. With regard to the limitation that the adenovirus vectors express the p53 gene at levels sufficient to inhibit tumor cell growth in cells *in vivo* or restore growth suppression or kill tumor cells *in vivo*, since the claims in the '594 patent recite the same adenoviral vectors (i.e. p53 coding sequence operably linked to the CMV promoter wherein the p53 sequence replaces the E1 region in the adenovirus) in the context of pharmaceutical compositions, it must be assumed that the vectors and adenoviruses recited in both sets of claims would have the same effects in tumor cells *in vivo*. The instant claims must therefore be considered obvious over the claims in the '594 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

No Claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Guzo, Ph.D., whose telephone number is (571) 272-0767. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Irem Yucel, Ph.D., can be reached on (571) 272-0781. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAVID GUZO
PRIMARY EXAMINER

David Guzo
June 27, 2005

Notice to Comply	Application No. 10/602,258	Applicant(s) Gregory et al.	
	Examiner David Guzo	Art Unit 1636	

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set in the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).

☒ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☒ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☐ 7. Other: Amino acid sequences listed in claims 27-28 should be identified by a sequence identifier.

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☒ An initial or substitute paper copy of the "Sequence Listing", **as well as an amendment specifically directing its entry into the application.**

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (571) 272-2510
For CRF Submission Help, call (571) 272-2501/2583.
PatentIn Software Program Support
Technical Assistance.....703-287-0200
To Purchase PatentIn Software.....703-306-2600

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR REPLY